

Appl. No. 09/511,955  
Amdt. dated April 5, 2004  
Reply to Office action mailed January 5, 2004

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

**Claim 1 (previously presented):** A data switch comprising:

means for receiving a connection request;  
means for identifying a protocol associated with the connection request;  
means for dynamically bonding the identified protocol to a port, the dynamic bonding allowing the port to transmit packets according to a first protocol during a first communication session and according to a second protocol during a second communication session; and  
means for formatting the packet according to the identified protocol.

**Claim 2 (previously presented):** The data switch of claim 1 further comprising a cache for storing encapsulation information generated based on the identified protocol.

**Claims 3-4 (cancelled)**

**Claim 5 (previously presented):** A method for forwarding data blocks comprising:

receiving a connection request;  
identifying a protocol associated with the connection request;  
dynamically bonding the identified protocol to the input port, the dynamic bonding allowing the port to transmit packets according to a first protocol during a first communication session and according to a second protocol during a second communication session; and  
formatting the packet according to the identified protocol.

**Claim 6 (previously presented):** The method of claim 5 further comprising:

generating encapsulation information based on the identified protocol; and  
storing the encapsulation information in a cache.

**Claims 7-8 (cancelled)**

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**Claim 9 (previously presented):** The data switch of claim 1, wherein the protocol is a layer two protocol.

**Claim 10 (currently amended):** The method of claim 5, wherein the protocol is a layer two protocol.

**Claim 11 (previously presented):** A network switch comprising:

means for establishing a communication session with an end device;

means for identifying a communication protocol associated with the communication session;

means for dynamically configuring a port with the identified communication protocol for a duration of the communication session, the port being capable of being dynamically configured with a different communication protocol upon expiration of the communication session;

means for formatting a data packet based on the identified communication protocol; and  
a switching interface coupled to the means for formatting for forwarding the formatted data packet.

**Claim 12 (currently amended):** The network switch of claim 11, wherein the identified communication protocol is a layer two communication protocol.

**Claim 13 (previously presented):** A method for forwarding data packets comprising:

establishing a communication session with an end device;

identifying a communication protocol associated with the communication session;

dynamically configuring a port with the identified communication protocol for a duration of the communication session, the port being capable of being dynamically configured with a different communication protocol upon expiration of the communication session;

formatting a data packet based on the identified communication protocol; and

forwarding the formatted data packet via the port.

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**Claim 14 (currently amended):** The method of claim 13, wherein the identified communication protocol is a layer two communication protocol.

**Claim 15 (previously presented):** A method for forwarding data packets comprising the steps of:

*DP*  
(a) dynamically establishing a communication session with an end device via an ingress port enabled with a plurality of layer two protocols, the communication session having an associated layer two protocol selected from the plurality of layer two protocols, wherein the establishing step further comprises the steps of:

(i) identifying the layer two protocol associated with the communication session from the plurality of layer two protocols enabled on the port;

(ii) linking the identified layer two protocol with the port for the duration of the communication session, the port being capable of being linked with a different layer two protocol selected from the plurality of layer two protocols upon expiration of the communication session;

(b) formatting a data packet based on the identified layer two protocol; and

(c) forwarding the formatted data packet via an egress port.

**Claim 16 (new):** A data switch comprising:

a physical port adapted to sequentially receive a plurality of connection requests, each connection request characterized by one of a plurality of layer two protocols;

means for establishing a communication session for each connection request, comprising:

means for identifying the layer two protocol of the received connection request;

and

means for dynamically bonding the identified layer two protocol to the physical port.

**Claim 17 (new):** The data switch of claim 16, wherein the plurality of layer two protocols includes point-to-point protocol (PPP).

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**Claim 18 (new):** The data switch of claim 16, wherein the plurality of layer two protocols includes point-to-point protocol over frame relay (PPP/FR).

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*Am'd.*  
**Claim 19 (new):** The data switch of claim 16, wherein the plurality of layer two protocols includes point-to-point protocol over Ethernet (PPOE).

**Claim 20 (new):** The data switch of claim 16, wherein the plurality of layer two protocols includes layer two tunnel protocol (L2TP).

**Claim 21 (new):** The data switch of claim 16, wherein the plurality of layer two protocols includes layer two forwarding (L2F).

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